

**REMARKS****I. Introduction**

In response to the Office Action dated May 14, 2007, Applicants have amended claims 6 – 9 to more particularly point out and distinctly claim the subject matter of the invention. Care has been taken to avoid the introduction of new matter. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

**II. Claim Rejections Under 35 U.S.C. § 101**

Claim 10 stands rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. The Examiner appears to acknowledge that claim 10 represents a product by process claim, however, asserts that the claim overlaps statutory categories. The Examiner refers § 2173.05(p)(II) in support of this rejection. Applicants direct the Examiner's attention to MPEP § 2173.05(p) (I), which recites in pertinent part:

A claim to a device, apparatus, manufacture, or composition of matter may contain a reference to the process in which it is intended to be used without being objectionable under 35 U.S.C. 112, second paragraph, so long as it is clear that the claim is directed to the product and not the process.

MPEP § 2173.05(p)(II), which is cited by the Examiner, refers to a single claim which claims both the apparatus and the method steps of using the apparatus. It is claims directed to such a product which should also be rejected under 35 U.S.C. § 101.

Here, claim 10 does not recite an apparatus and the method steps of using the apparatus. Rather, claim 10 is directed to a product and a process in which it is intended to be used. More specifically, claim 10 recites a storage medium (a product) which makes a computer implement

the functions described in any of claims 6 – 9. That is, the intended use of the storage medium is to make a computer perform the functions of any of claims 6 – 9. Claim 10 does not recite a storage medium and a method of using the storage medium. The methods steps outlined in claims 6 – 9 are not steps of using a storage medium.

Applicants respectfully submit that claim 10 meets the statutory requirements of 35 U.S.C. § 101. Accordingly, withdrawal of this rejection is respectfully requested.

### **III. Claim Rejections Under U.S.C. § 112**

Claims 6 – 10 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicants traverse these rejections for at least the following reasons.

Regarding claims 6 – 10, the Examiner asserts that the phrase “inherit character” is indefinite. Applicants have amended the claims to recite “inherit characteristics”.

The Examiner also continues to assert that the phrase “phenomenological model” does not conform to the rest of the claim. On page 7 of the Office Action, the Examiner asserts that the term phenomenological is defined as “relating to experiences; phenomenological research emphasizes the importance of how people experience and feel things.” The Examiner has not provided a citation to a source for this definition. However, the Examiner has provided, on page 3 of the Office Action, a definition of phenomenology according to the Merriam-Webster Dictionary. One of the provided definitions of this term is “the typological classification of a class of phenomena”.

The Merriam-Webster Dictionary also defines phenomenological as “of or related to phenomenology”. Thus, phenomenological would mean of or related to the typological classification of a class of phenomena.

Claim 6, for example, specifically recites “classifying models which represent phenomena occurring in various components of an apparatus...”. That is, claim 6 includes the typological classification of a class of phenomena. As such, the phenomenological model recited in claim 6 is clearly related to the classification of the phenomena also recited in the claim. The Examiner is further directed to paragraphs [0020] – [0022] of the specification which describes the process of classifying phenomena. In light of the specification and the definition provided by the Examiner, Applicants submit that the phrase “phenomenological” is proper.

Next, the Examiner asserts that the claims “contain apparent means for language, by stating ‘by means of’.” The Examiner further asserts that this does not comport to U.S. practice, as “means for” claims are separate from method claims. It is unclear what the Examiner is referring to by stating the “means for” claims are separate from method claims. It appears that the Examiner may be referring to the treatment “means plus function” claim elements under 35 U.S.C. § 112, sixth paragraph. Applicants respectfully request clarification of the Examiner’s intent. However, if the Examiner is referring to the treatment of “means plus function” claim limitations, Applicants submit that no such limitations are present in the claims.

Claim 6, for example, recites classifying models which represent phenomena occurring in various components of an apparatus for producing refrigeration effect **by means of heat exchange between refrigerant and air** into categories independent of one another. The phrase

“by means of heat exchange between refrigerant and air” is not a means-plus-function” claim element. Rather, this phrase merely describes how the refrigeration effect is achieved.

Next, the Examiner asserts that the claims are generally narrative and indefinite. Applicants have reviewed the claims and respectfully submit that the claims are proper as written. If the Examiner wishes to maintain this rejection, Applicants respectfully request the identification of the specific claim language deemed improper.

Finally, the Examiner asserts that claim 10 represents a product by process claim and is therefore indefinite. As explained above in reference to the § 101 rejection, product-by-process claims are proper.

Withdrawal of all rejections under § 101 is requested.

#### **IV. Claim Rejection Under 35 U.S.C. § 102**

Claims 6 – 10 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by both Judge and Karanikas. Applicants traverse these rejections for at least the following reasons.

Claims 6 – 10 each include features related to configuring a simulation program. Regarding Judge, the Examiner asserts that it is unclear how the simulation program can be run without first being configured. The Examiner further asserts that Judge states that “the elements of the configuration, the heat exchanger, can also be configured.” While it is true that the cited paragraph on page 249 does disclose configuring a heat exchanger, Judge does not disclose or even suggest the specific steps recited in the pending claims of configuring a simulation program. Whether a simulation program allegedly disclosed by Judge must first be configured is

irrelevant since Judge fails to disclose the specific method steps recited in the pending claims.

Claim 6, for example, recites a step of classifying models which represent phenomena occurring in various components of an apparatus for producing refrigeration effect by means of heat exchange between refrigerant and air into categories independent of one another. The Examiner refers to various passages in Judge as allegedly disclosing this feature. However, none of the cited passages nor any other portion of Judge discloses this feature. Page 244 of Judge merely recites that the paper is directed to a heat exchanger simulation as does the cited paragraph on page 245. The model description section on page 246 merely describes the assumptions used in modeling the heat exchanger. The cited portions of page 247 describes heat resistances associated with the tube and fin, and provides equations for modeling the energy stored in the mass of the heat exchanger. None of the cited portions nor any other portion of Judge discloses classifying models occurring in various components of an apparatus for producing refrigeration into categories independent of one another.

The Examiner cites the same portions of Judge as allegedly disclosing the remaining features of claim 6. A description of those cited portions are described above. No where does Judge disclose or even suggest defining resulting categories as classes; defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each category if these parts need to be distinguished for the purpose of calculation; providing, under the abstract class, as may subclasses which inherit characteristics of the abstract class as there are necessary types of parts to be distinguished; implementing a phenomenological model of each defined class; or creating a computer-implemented by the computer processor in an object-oriented language based on the classes.

Judge is directed only to a particular heat exchanger simulation. Judge does not in any way disclose the specific method of using a computer system to configure a simulation program for computing amounts of heat exchanged recited in the pending claims. On page 5 of the Office Action, the Examiner asserts that Applicants arguments fail to comply with 37 C.F.R. 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claim distinguishes them from the references. Applicants respectfully submit that the Examiner, in the previous office action, did not provide a clear case of anticipation by showing how each and every claim element is recited in the reference. Nonetheless, Applicants have attempted to further explain why none of the claim elements are disclosed by Judge (nor Karanikas, as described below) by specifically characterizing those portions cited by the Examiner in support of the claim rejections.

Regarding Karanikas, the Examiner refers to the abstract and paragraphs 181, 889-890, 897-898, and 1357 as allegedly disclosing “classifying models which represent phenomena occurring in various components of an apparatus for producing refrigeration effect ....” None of these cited portions nor any other portion of Karanikas discloses this feature.

First, the abstract merely explains that the patent application is directed to systems and methods of using a computer system to simulate in situ treatment of hydrocarbon containing formation. The abstract further describes a particular method of operating the in situ process. However, there is no discussion of classifying models representing phenomena occurring in various components of an apparatus into independent categories. Paragraph 181 is completely irrelevant to the above identified feature as it merely discloses how the treatment of a hydrocarbon containing formation is performed.

Claim 6 further recites defining the resulting categories as classes and defining an abstract class by extracting characteristics common to a plurality of similar parts contained in each category if these parts need to be distinguished for the purpose of calculation. The Examiner refers to the abstract and to paragraph 86 of Karanikas as allegedly disclosing these features. The abstract has been described above and contains no disclosure of defining the resulting categories as class. In fact, the abstract does not even disclose defining categories. Moreover, the abstract provides no disclosure of defining an abstract class as no categories are defined. Paragraph 86 describes the types of parameters which may be used as inputs to when performing a simulation. However, there is no disclosure of defining any categories as classes nor defining an abstract class as recited in claim 6.

Claim 6 also includes additional features which are not disclosed by Karanikas. However, as anticipation requires that every feature of a claim be disclosed in a single reference and at least the above identified features are not disclosed by Karanikas, Karanikas cannot anticipate claim 6.

Claims 7 – 10 include features similar to those described above in reference to claim 6. These claims have been rejected using the same rationale described above in reference to claim 6. Accordingly, these claims are patentable over Judge and Karanikas for at least the same reasons described above.

## **V. Conclusion**

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this

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Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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